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COPIDOGNATHUS GITAE, A NEW SPECIES OF HALACARIDAE (ACARI) FROM VISAKHAPATNAM COAST, BAY OF BENGAL¹

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(With ten text-figures)

Copidognathus gitae, a new species of halacarids (Acari) is described here from Visakhapatnam coast (Bay of Bengal), collected among the thalli of *Caulerpa racemosa* and *Caulerpa taxifolia*. Similarities and dissimilarities with related species are discussed.

INTRODUCTION

The littoral phytal halacarids of Visakhapatnam coast are not well researched for biosystematic understanding except for the quantitative recording of the group among various algal biotopes (Sarma 1974 a, b, c; Sarma and Ganapati 1972, 1975). However, as many as eight named and six undetermined species were documented in the publications on the interstitial fauna of Visakhapatnam beach sands (Rao 1970, Rao & Ganapati 1968). The present paper is an attempt to study the biosystematics of halacarids along the coast and reports the occurrence of a new species, *Copidognathus gitae* from the phytal realm of the Visakhapatnam foreshore.

Copidognathus gitae sp. nov.*

Diagnosis: AD with long, stout, spine-like frontal elongation; telofemur I with huge pointed ventro-lateral lamella, postero-dorsal plate with 4 longitudinal costae.

Locality: Several male and female specimens

were recovered from *Caulerpa racemosa* and *C. taxifolia*, collected in the littoral region of Palm Beach, Visakhapatnam coast, Bay of Bengal. Sediment deposited on the thalli consists of medium sand.

Type: The holotype (male) and paratypes are in the author's collection in the Department of Life Science, Regional College of Education, Bhubaneswar.

Description: MALE: Idiosomal length of males ranged between 256 μ and 290 μ . The various other measurements obtained from one of the male specimens are shown in Table 1.

All dorsal plates separate and are sculptured with fovea and rosette pores (Fig. 1). Anterodorsal plate (AD) bears a long, stout, spine-like frontal projection and three arcolae, one located anteriorly and two posteriorly. The

TABLE 1
MEASUREMENTS OF MALE *Copidognathus gitae* SP. NOV.

	Length(μ)	Width (μ)
Idiosoma	271	158
Anterodorsal plate	92	76
Ocular plate	65	47
Posterodorsal plate	158	125
Anterior epimeral plate	73	147
Genitoanal plate	127	25
Genital opening	36	25
Gnathosoma	71	56

¹Accepted October 1990.

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*Named after Miss Gita Chatterjee for her support and devoted interest in the present research.

anterior areola extends nearly up to the tip of the frontal spine and comprises of 16-18 rosette pores (Figs. 1, 4). The two posterior areolae, each comprising 10-11 rosette pores, are divergent anteriorly and separated by a narrow gap posteriorly. The dorsal seta 1 (ds_1) are located anterior to two posterior areolae on AD. Ocular plate (OC) bears dorsal seta 2 (ds_2) anteromedially. Two corneae flanked on either side by two areolae are present on OC (Fig. 5). Posteriorly, OC tapers acutely up to the insertion of leg III. Posterodorsal plate (PD) is separated from AD by a cuticular membrane consisting of almost parallel striae. PD with 4 costae. The middle costae are of two rosette pores width but at the posterior end they are 3 rosette pores wide. The dorsal setae 3, 4 and 5 (ds_3 , ds_4 , and ds_5) are on PD. A pair of adanal setae are present on anal papillae.

All ventral plates are separate (Fig. 2). The 1st coxal prominence of Anterior epimeral plate (AE) bears a few rosette pores laterally. AE bears 3 pairs of setae. Posterior epimeral plate (PE) possesses a few rosette pores. PE with 3 ventral and 1 dorsal setae. GA with perigenital areolae. There are 14-17 pairs of perigenital setae (PGS) around the genital opening (GO) besides 4 pairs of subgenital setae (SGS) inside the GO (Fig. 2).

Palp is 4-segmented (Fig. 3). Palpal trochanter and patella are without any setae. Palpal femur is with one dorsal seta; palpal tibiotarsus with 3 basal setae and one distal singlet eupathidia. Rostrum is slender, extending up to the base of palpal patella. Gnathosoma bears a pair of proto-, deuto-, trito-, and basi-rostral setae. The tectum is conical and moderately developed (Fig. 3).

The chaetotaxy of legs I - IV is as follows:

Trochanter	1-1-1-0
Basifemur	2-2-2-2
Telofemur	5-5-2-2
Patella	4-4-3-3
Tibia	7-7-5-5

Tarsus is discussed in the text.

TABLE 2
MEASUREMENTS OF FEMALE *Copidognathus gitae* SP. NOV.

	Length (μ)	Width (μ)
Idiosoma	292	174
Antero-dorsal plate	96	71
Ocular plate	68	46
Postero-dorsal plate	170	139
Anterior epimeral plate	83	158
Genitoanal plate	133	100
Genital opening	46	27
Gnathosoma	72	50

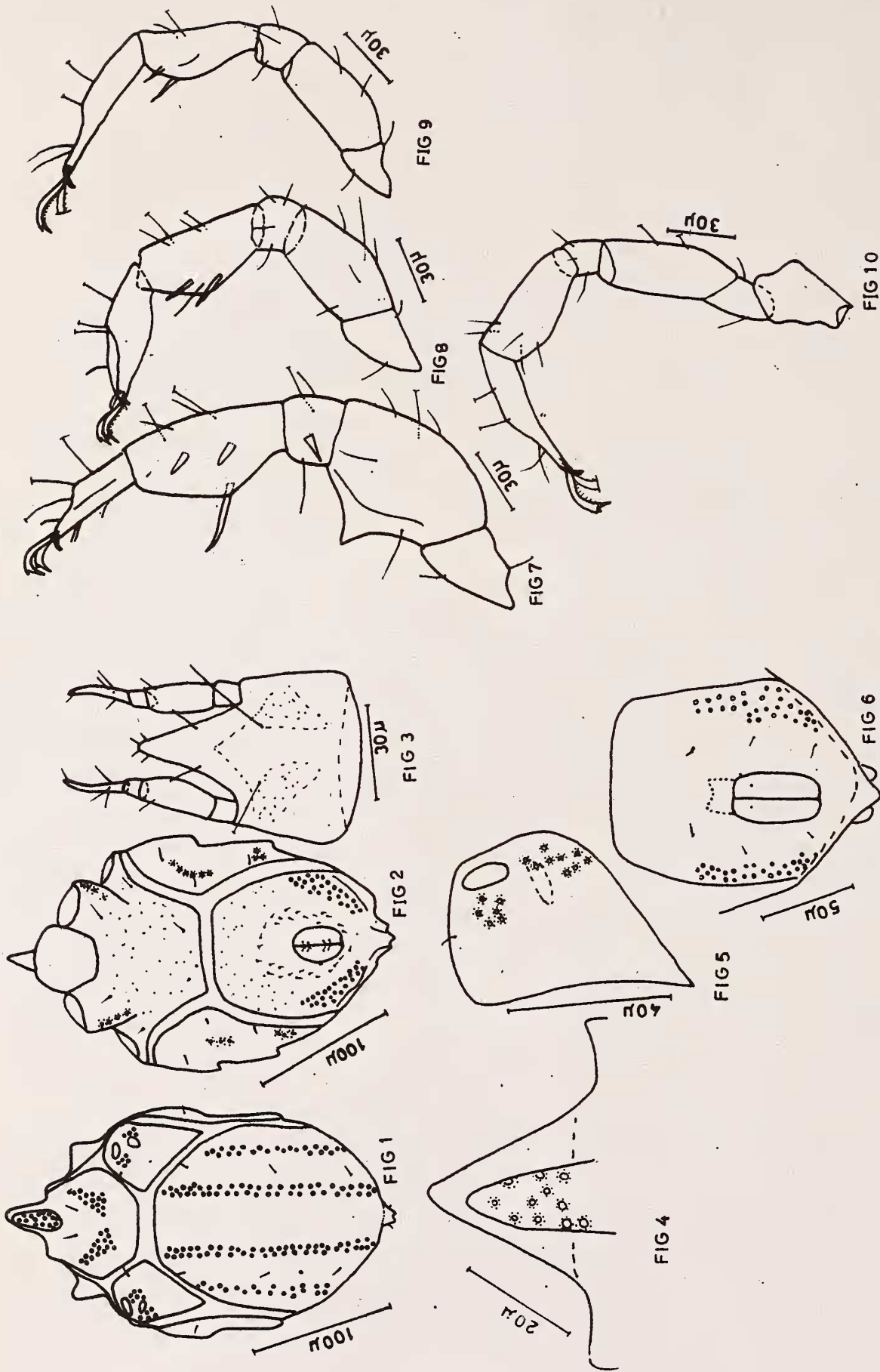
Trochanter III is clavate with a feebly developed postero-dorsal spine. Telofemur I bears a huge pointed ventro-lateral lamella (Fig. 7). Telofemora III and IV devoid of any ventral seta. Tibia I with 4 dorsal hair-like setae and 3 ventral setae (of which one is stout and spine-like, while the other two are acute and moderately developed). Tarsus I is beset with three dorsal long setae; three ventral setae (one basal filiform seta and two singlet eupathidia distally); one solenidion, one profemulus and four parambulacral setae (PAS) (two doublets eupathidia). Tarsus II bears 3 dorsal long setae, 1 solenidion, 2 eupathidia doublets PAS accounting for a total 8 setae (Fig. 8). Tarsi III and IV with 3 dorsal fossary setae, 1 proximo-dorsal and 2 PAS (Figs. 9, 10). Tarsi I-IV bear two lateral claws and one bidentate median claw (Figs. 7-10). Lateral claws of tarsus I are ventrally smooth and bear an accessory tooth dorsally. Lateral claws of legs II, III and IV are pectinate ventrally and bear an accessory tooth dorsally.

FEMALE: The idiosomal length of females ranged between 270 μ and 300 μ . The various other morphometric measurements obtained from a female specimen are shown in Table 2.

Female resembles the male except for the genitoanal region. Genitoanal plate with 3 pairs of PGS and one pair of SGS located anteriorly on GO. Ovipositor is small. Paragenital areolae present (Fig. 6).

DISCUSSION

C. gitae sp. nov. is easily distinguished



Copidognathus gitae sp. nov.

Fig. 1: Idiosoma - dorsal of male, Fig. 2: Idiosoma - Ventral of male, Fig. 3: Gnathosoma, Fig. 4: Magnified view of anterior portion of AD, Fig. 5: Magnified view of OC showing cornua and areolae, Fig. 6: Genitoanal region of female, Fig. 7: Basifemur - tarsi of leg I, Fig. 8: Basifemur - tarsi of leg II, Fig. 9: Basifemur - tarsi of leg III, Fig. 10: Leg IV.

from known species of the genus *Copidognathus* by the huge, pointed ventro-lateral lamella on telofemur I and AD with long, stout, spine-like frontal elongation.

C. subterraneus Bartsch and Illiffe, 1985 is the only species of *Copidognathus* known to possess a huge, pointed ventro-lateral lamella on telofemur I but its AD lacks a long spine-like frontal elongation. It is thus readily separated from *C. gitae*.

Thanks are due to Dr. A.L.N. Sarma, Zoology Division, Regional College of Education, Bhubaneswar, for critically going through the manuscript and constant guidance, to Dr. Ilse Bartsch, Biologische Anstalt Helgoland, FRG, for her ready help in providing the necessary literature and encouragement. Thanks are also due to Gita Chatterjee, Sambhunath Das and Dr. D.G. Rao for their encouragement and constant support.

ACKNOWLEDGEMENTS

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